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COMPLETION

8/31/64 Project
5407

31 August 1964

MEMORANDUM FOR: Chief, Development Branch, P&DS

SUBJECT : Evaluation of Goodyear Rear Projection Stereo Viewer

REFERENCES : (a) Minor project assignment dated 15 July 1964
(b) Memo from Chief, CIA/PID(NPIC) dated 13 August 1964

1. Upon completion of the study of the Goodyear Rear Projection Stereo Viewer the following items were found to be disadvantageous for the use of the equipment in our applications.

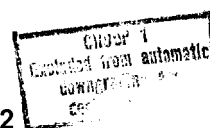
a. The specific format size of 70mm x 70mm has virtually no application except for keying or briefing purposes where the specific stereo pairs have been previously prepared for this particular format size.

b. The present quality and resolution of the presented images will eliminate the existing equipment for briefing or keying purposes.

c. The awkward focusing technique would have to be improved in any new development. Presently, the screen and rear projection mirror must be moved and an inside cover removed before the focusing lens can be reached. After this lens is adjusted all of the above operations must be preformed in reverse to check the focus. Only by trial and error can the image be focused.

d. The image is very fuzzy at the edges. It would seem that a field flattener should be added to the optical train. This lack of focus at the outer edge is intolerable for any application.

e. For any of our applications, the magnification would have to be increased. If this was done the portability of the equipment would be limited. If the magnification was increased, either the screen would have to be made larger or a film transport arrangement to position the needed imagery over the lens would have to be employed. Either of these modifications would tend to increase the size and weight of the equipment. Variable width film sizes should be considered in any new design.

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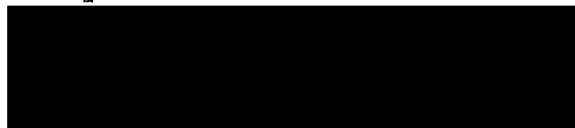
f. For most users the limited head position presents a problem. For stereo viewing, the head must be kept in a very limited area and after a period of time this restriction becomes bothersome and tiring.

g. For some operators, a propeller effect of the image is objectionable. The screen seems to be brighter in an area radiating from the center to the corners. Improvement of the screen capabilities would have to be made in order to eliminate this difficulty in any future equipment employing this type of screen.

h. The concentric lines on the screen surface are troublesome to some users. In future developments it would be strongly recommended that the distinguishability of these lines be diminished as much as possible.

2. From the above discussion is evident that the existing device has no application for our application. Since there are basic limitations (resolution, magnification power, etc.) to the screening material, the only application that the principle could have would be a keying or briefing device. Since extensive modification and redesign would be required it would seem reasonable that the cost involved would not justify the modification. A modification for a film chip viewer using this type of screen might be considered. Elimination of the problems connected with the fixed format spacing of the roll film, one could employ the principle for keying.

3. Attached is an operational evaluation preformed by the Photographic Intelligence Division which lists some of the same objections as discussed above. They concur that there is no present use for the equipment.



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Development Branch, P&DS

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